

Claims

1. Device for detecting foreign substances in a thread (3) with the aid of a detector (22) which scans the thread which is lit by an illumination element (1), characterised in that the illumination element is designed and arranged to intensively illuminate a single thread moved in its longitudinal direction, has a face (26) which is directed towards the thread (3) and limits a cavity (27) adjacent to the thread (3) with openings for light sources, which cavity (27) extends longitudinally and transversely to the thread and in that the detector is arranged in an axis of symmetry (6) of the cavity extending through the centre (20).

2. Device according to claim 1, characterised in that the illumination element is spherical-symmetrical in design.

3. Device according to claim 1, characterised in that the thread is guided perpendicular to the axis of symmetry (6) with the detector.

4. Device according to claim 1, characterised in that the illumination element (1) has, at least approximately, the shape of a hemisphere cut by a plane (2).

5. Device according to claim 4, characterised in that the thread runs parallel to the plane (2), is located, at least approximately, in the centre (20) of the illumination element which has a plurality of openings (7, 8, 9, 10) for light sources, having axes (18, 19) which go through the centre (20), at least approximately.

6. Device according to claim 5, characterised in that at least some of the light sources emit blue light.

7. Device according to claim 1, characterised in that the illumination element has an axis of symmetry (6) in which an opening (15) for the detector is provided, the openings for light sources being uniformly distributed round this axis of symmetry.

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8. Device according to claim 1, characterised in that a cover (25) is arranged spaced remote from the illumination elements, which cover acts as a background for the thread.